About the Program Evaluation Tool

The Program Evaluation Tool allows local governments to prioritize their investment into emission reduction programs based on their sustainable outcomes. Using a triple bottom line framework the PET streamlines the process of program evaluation through data collection, analysis, and final output of key metrics material to local governments climate action plans.

The PET provides a robust analysis of the the sustainable return on investment of a wide range of emission reduction strategies; and evaluates them based on their ability to provide environmental, economic, and social returns including: Emission reductions, job creation and economic multiplier effects.

By using the tool local governments can gain much needed transparency into how to efficiently achieve their commitments to sustainability goals, and improve the quality of life in their communities.

Waste Less and Achieve More. With the Program Evaluation Tool.

If you need support or guidance with the PET please feel free to contact us:

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About this methodology:

The following methodology provides a walkthrough of program analysis for climate solution idea challenges. It is broken into sections, which are presented in the order of which they will be encountered by the idea challenge host.

Outreach and materials on how to attract bidders to the idea challenge can be found in the Outreach Plan.

Steps to program evaluation completion:

i. Data collection Process
ii. How to use the Program Evaluation Tool
iii. Results and Program Comparison
iv. Criteria for competition winner(s) evaluation.

Data Collection:

Data collection for the Climate Change Idea Challenge is facilitated through the Climate Solutions Idea Challenges Data Collection Form which is designed to gather information from Technical Assistance Partners and qualified vendors on possible strategies to reduce emissions in their community. Throughout the form response process respondents are given opportunities to describe, report and provide assessment methodologies for their programs including 1. Respondent identification. 2. Filter questions designed to streamline the user experience. 3. Additionality assessment. 4. Revenue analysis. 5. Budget analysis. 6. Employee needs. 7. Social externalities. 8. Potential greenhouse gas savings. and 9. Project specific questions.

Form inputs:

Dependent upon program type or sector vendors will encounter some of the following questions through their form response process.

i. **Identification Questions**: Who is the respondent and what is their contact info?

First Name
Last Name
Organization Name
Organizational Type (section)
Organization Website
Email
Phone Number
Willing to Collaborate with other applicants (selection)
Featured on Online Portal
Project Description
Useful Life of Project
Regional Grid selection (map/Dropdown)

2. Filter Questions: *Have the following been evaluated?* Questions meant to streamline the response experience and gather only the data that has been analyzed by the respondent.

GHG assessment
Legal or policy mandated fulfillment
Budget
Employee needs
Revenue
Project Category

3. Additionality Assessment Questions: is the project already required by mandate or policy?

Other potential outcomes beyond policy mandate
Describe other outcomes

4. Revenue Questions:
Describe revenue
Year one revenue
Cumulative revenue
Revenue fluctuation
Rate of change (if applicable)
Customer cost or savings changes
Methodology

6. Employee Questions:
Full time employee (FTE) needs
Percentage of time dedicated to project
total average loaded salary per employee
New job creation
how many (if yes)

7. Social Externalities Questions:
Describe any social benefits/costs of the project
If possible value the social benefits in USD
Methodology for analysis

9. Project specific questions
Energy Project Data Collection:
Building Sector
expected annual savings (kWh)
cumulative energy savings (kWh)
Annual Natural Gas Savings (BTU)
Cumulative Natural Gas Savings (BTU)
Grid connection
line loss factor considered (if yes)
Ratio of line loss (if yes)

Sequestration program questions:
Describe program
CO2e savings
other savings
methodology
converted to emission credit?

other projects questions:
Describe program
CO2e savings from program
other savings
methodology
other externalities

5. Budget Questions
Average fixed cost per year (not including employee needs)
Describe fixed costs
Fixed costs fluctuation
rate of change
average variable costs per year
describe variable costs
expected fixed costs fluctuation
rate of change
other expenses not captured by fixed or variable costs

8. Greenhouse Gas Questions:
Describe Environmental benefits/impacts
Value the projected value of env impacts in USD
Describe Economic impacts of project
value economic impacts in USD
Methodology for assessment
what year of the project do emission savings begin
cumulative GHG savings from project
emission coefficient used
methodology

Transportation Projects:
Describe emission savings source
Gasoline Savings
Diesel Savings
Natural Gas Savings
Energy Use Changes
Other savings
Methodology
Other Externalities

Waste project
Describe savings
tons of waste diverted annually
Cumulative tons of waste diversion
co2e in one ton
other savings
methodology for analysis
other externalities

Offset data collection
Buying or selling offsets
Describe offset
Third party verification
Who verifies (if yes)
Verification expenses (if applicable)
Describe expenses
Did you Already included this expense in budget
Annual expenses for verification
Cumulative expenses for verification
co2e savings from offset
other positive or negative externalities

How to use the Program Evaluation Tool

Getting data into the Program Evaluation Tool
Moving vendor responses and data from the responses to the [Climate Solutions Idea Challenges Data Collection Form] can be completed by following these steps:

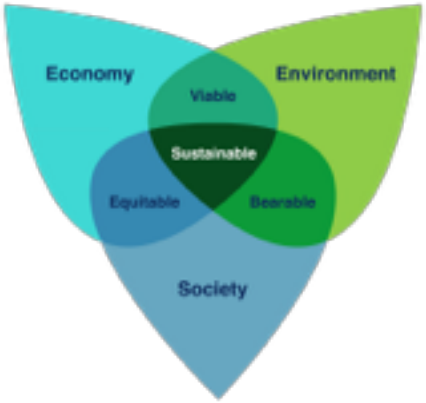
i. Open the [Climate Solutions Idea Challenges Data Collection Form]
ii. Click Responses on the top Bar -> View Responses. This will open the response spreadsheet.
iii. Click the chevron on the bottom tab of the spreadsheet and choose "copy to..."
iv. Set the destination as the ProgramEvaluationTool_PET_Draft.xlsx. This can be found in the shared folders or through the link to the right.
v. Open the "Program Evaluation" sheet at the bottom of the PET
vi. Make sure that the grey Input sections at the top of the "Program Evaluation Sheet" are referencing the matched "'Copy of Form Responses 1'!ROWIColumn".
vii. Once the references are matched, the program evaluation tool will autofill producing the budget forecast, anticipated savings and key comparison metrics to other programs.

Results and Program Comparison

The Program Evaluation Tool (PET) uses a triple bottom line framework of environmental, social, and economic impacts to create key metrics about the impacts of various emission reducing programs.

The PET references data from the imported data collection form and breaks the information into line items including:

- Budget Analysis
- Savings Calculations
- Greenhouse Gas Calculations
- Monetizations
- Metrics and Results



Final Metrics and Results from the analysis are automated and represented in a value matrix. In which, direct, indirect, and induced impacts are shown on the horizontal rows. The triple bottom line metrics are shown vertically as columns. (Example Below)

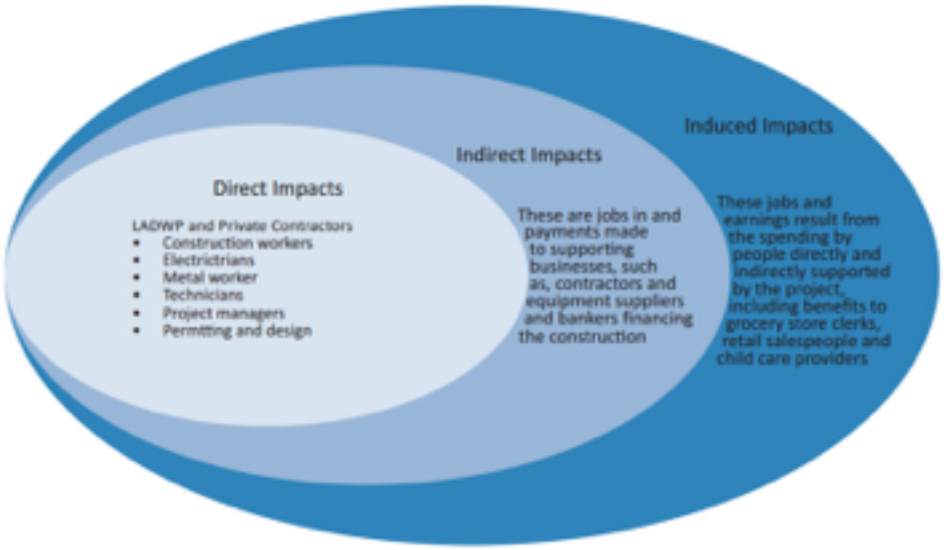
The intersection of these axis shows not only what type of impact can be expected, but also where in

the stakeholder chain they occur.

The result matrix is then rolled together through a sum function to show the *Net Total Benefit* of the program; which contains all direct impacts and resulting co-benefits and costs of a program into a single output. This is represented by the model in real dollars (adjusted for inflation and an internal hurdle rate provided by the user).

Categorical impacts can also be isolated from Net Total Benefit by summing the results either vertically down the column to produce stakeholder impacts, or horizontally across the row to show environmental, social and economic impacts.

Figure 1-1: Energy Efficiency's Economic Ripple Effect



Source: Diagram adapted from U.S. Department of Energy study: 20% Wind Energy by 2030.

Value Matrix

	Investor impact	**Individual impact**	**Community impact**	**Total Impact**
Environmental and Social Impact			Social Cost of Carbon	sum of environmental and social impact
Economic impact	Profit and Loss	Bill Savings or Increases	Economic Multiplier	sum of economic impact
Net Impact	sum investor impact	sum individual impact	sum of community impact	**Net Total Benefit**

Net Total Benefit = Environmental Impact + Social Impact + Economic Impact

Or

Net Total Benefit= Investor Impact + Individual Impact + Community Impact

The model then divides Net Total Benefit by the cost of investment required to run the program. This creates the key ratio for programmatic comparison within the PET and tells the user how much triple bottom line impact each program can create per dollar spent. This value effectively represents the *sustainable return on investment (SROI)* of the program. SROI can be used to cross compare proposed projects to provide insights on how much they give back to the community in terms of the value of GHG reductions, economic stimulus and bill savings.

Sustainable ROI (SROI) = Net Total Benefit / Program Expenses

The PET also uses information collected from the response form to evaluate the annual and cumulative emission reductions of the program as well as the cost per ton of Co2e reductions.

Choosing a winner:

Judging Criteria can be developed based on different city priorities. However, we recommend that if program assessment from the PET that the Sustainable ROI value should be given the highest weight of all the outputs. We recommend considering the following categories when choosing a program winner.

No.	**Criteria**	**Weight**
1	Net Social Return on Investment Ranking	
2	Feasibility	
3	Ability to quantify and verify reductions	
4	Cost per metric ton of Co2e Reduction	
5	Direct benefits to participants, in the form of lower energy costs	
6	Improvements to social and economic equity and participation of diverse populations	
7	Indirect benefits to the community	
9	Replicability	
	Total	100%